

Rules for Order of Operations

1. Perform any operation(s) inside grouping symbols.
2. Simplify any terms with exponents.
3. Multiply and divide in order from left to right.
4. Add and subtract in order from left to right.

Simplify. Show all steps!

1.  $-6 + 3(4 - 9)^2$

2.  $(-6 + 3)(4 - 9)^2$

3.  $-6 + 3(4) - 9^2$

4.  $-6^2 + 3(4 - 9)$

5.  $10 + 12 \cdot 3 \div 2$

6.  $(-5 + 20) \div 3 \cdot 5$

7. Place and label the numbers on the number line:  $\sqrt{7}$ ,  $\frac{7}{16}$ ,  $-\sqrt{5}$ ,  $\frac{5}{8}$



Evaluate each expression. (*Remember:* Apply the order of operations.)

8.  $5a^2 - b$ , where  $a = 4$  &  $b = -2$

9.  $5a - b^2$ , where  $a = 3$  and  $b = -4$

10.  $(3x)^2 - |y|$  where  $x = 4$  and  $y = -10$

Simplify the following expressions.

11.  $-2(10x + 12y) - 4(-3x + 5y)$

12.  $\frac{h(6+4)}{2h} + 7h$

Solve each equation.

13.  $4(2x - 1) = 3(5 - 2x)$

14.  $5(4y + 3) = 10 - 2(3 - 2y)$